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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/735,746

12/16/2003

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Q77610

3341

23373 7590 04/05/2007  
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EXAMINER

PAUL, DISLER

ART UNIT

PAPER NUMBER

2615

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/05/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/735,746	PARK, JIN-YOUL	
	<b>Examiner</b>	<b>Art Unit</b>	
	Disler Paul	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____                                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____   | 6) <input type="checkbox"/> Other: ____                           |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7; 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naruki et al. ("6,377,862 B1") and Elenich et al. ("6,904,783 B2") and Lebizay et al. ("6,144,658").

Re claim 1, Naruki et al. disclose an apparatus for controlling an input signal level recognized when an input signal is inputted to a device, said apparatus ("fig.13-31"); comprising: a memory storing values ("fig. (22,28,31)/44,col.21 line 17-19") including a current input signal level to be controlled, a previous input signal level which is a level of an input signal preceding a current input signal ("fig.14(48),fig. (15,18), (data with respect to time are controlled and further as time defined previous and current signals),"), a maximum change value which is an upper limit of an allowable range of level ("fig.17A/maximum valued is determined for signals level in each channel when compared").

While, Naruki et al. teach of the above limitation with the maximum change in value, he fail to disclose of the memory for storing valued including the distinction between the maximum change value with variation of the device and a maximum no-change value which is an upper limit of an

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value which is a number of input signals having different levels detected by comparing the current input signal level with the previous input signal level, and a no-change counter value which is a number of input signals having a same level detected by comparing the current input signal level with the previous input signal level. But, Elenich et al. disclose of a system for detecting tank level in which he disclose of the memory with the same technique for storing values<sup>S</sup> including the distinction between the two maximum change value of counters with threshold limit and different one from the other ("fig.2/(216,224); col.4 line 1-5 & line 31-33; two distinct maximum values of counters determined"), and further similarly two distinct counters of a change counter value, and a no-change counter value which is a number of input signals levels ("fig.2/(212,214); (220,222)); col. 3 line 58-61 & col.4 line 24-28- two different counters for comparisons") for purpose of monitoring/calculating the estimated level sensor value and comparing the estimated value with actual value.

Thus, taking the combined teaching of Naruki et al. and Elenich et al. as a whole, it would have been obvious for one of ordinary skill in the art to modify Naruri et al. by incorporating the distinction between the maximum change value of counters with threshold limit and different one from the other and a distinction of two change of counter values for purpose of monitoring/calculating the estimated level sensor value and comparing the estimated value with actual value.

While, the combined teaching of Naruki et al. and Elenich et al. as a whole, further teach of the determining unit determining whether

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corresponding values stored in said memory based either on the maximum change value and the change counter value, or on the maximum no-change value and the no-change counter value ("Naruri et. Al. fig.28(86,45,87)/indicated the levels of audio signals and see col.25 line 64-67"), and outputting a determination("col.26 line 323-37/the determining unit/meter has an indicator for outputting"); and a control unit reading the values stored in said memory to output the values to said determining unit ("Nikuri,fig.28/(82-85)-served as the control unit").

While, the combined teaching of Naruki et al. and Elenich et al. as a whole, teach of the above limitation, they fail to disclose of the storing a predetermined level as the current input signal level based on the determination by said determining unit as to whether said corresponding values are substantially identical. But, Lebizay et al. disclose of a system in which in which the previous input signal level is stored as the current input signal level based on the determination by said determining unit as to whether said corresponding values are identical ("fig.5/(509); col. 5 line 43-47") for the purpose of transmitting non-repetitive packet to a network format. Thus, taking the combined teaching of Naruki et al. and Elenich et al. and now Lebizay et al. as a whole, it would have been obvious for one of ordinary skill in the art to modify Nruki and Elenich et al. as a whole, by incorporating the previous input signal level is stored as the current input signal level based on the determination by said determining unit as to whether said corresponding values are identical for the purpose of transmitting non-repetitive packet to a network format as taught by Lebizay.

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Re claim 2, the combined teaching of Naruki et al. and Elenich et al. and Lebizay et al. as a whole, teach of the apparatus according to claim 1, wherein said determining unit further determines whether the current input signal level is substantially identical to the previous input signal level and outputs a first determination ("Nakuri, fig.2/(210) previous, current level are compared"), and wherein said control unit controls such that the change counter value or the no-change counter value is increased based on the first determination as to whether the two levels are identical, and an increased value is stored ("fig.2/(214,22) - the two distinct counters have increased"). However, the combined teaching fail to disclose the detail of the counter increasing specifically by one. But, official Notice is taken that incrementing the counter by one is commonly known in the art, thus it would have been obvious for one of ordinary skill in the art to increment counter by one for purpose of augmenting the value level.

Re claim 3, the combined teaching of Naruki et al. and Elenich et al. and Lebizay et al. as a whole, teach of the apparatus according to claim 2 with the increasing the counter by one, wherein said control unit increases the no-change counter value by one when the current input signal level is identical to the previous input signal level ("fig.2(214)"), and increases the change counter value by one when the current input signal level is substantially not identical to the previous input signal level ("Lebizay, fig.5(507)").

Re claim 4, the apparatus according to claim 3, wherein said control unit controls such that the change counter value and the no-change counter

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value are reset ("fig.2(219,226) with (218); col.4 line 15-18"), and further the Naruki as modified by Elenich et al. and Lebizay as a whole, disclosed the limitation of the a level recognized at a signal input point is stored as the current input signal level, if the change counter value and the maximum change value are identical ("Elenich,fig.2(226)").

Re claim 5, the apparatus according to claim 3, wherein said control unit controls said determining unit ("Naruki,fig.28((83),(86,45,87))") to determine whether the no-change counter value and the maximum no-change counter value are identical ("Elenich,fig.2(216)"), if the change counter value and the maximum change value are not identical ("Elenich,fig.2/(224)").

Re claim 6, the apparatus according to claim 3, wherein said control unit controls such that the change counter value and the no-change counter value are reset ("fig.2(218), from the two distinct counters at (216,224)"), and a level recognized at the signal input point in the current input signal level is stored, if the no-change counter value and the maximum no-change value are identical ("fig.2(219)").

Re claims 13 have been analyzed and rejected with respect to claims 6 respectively.

Re claim 7, the apparatus according to claim 3, wherein said control unit controls such that the previous input signal level is stored as the

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current input signal level ("Lebizay, fig. 5/(509)"), if the no-change counter value and the maximum no-change value are not identical ("fig. 2/(216)").

Re claims 11-12 have been analyzed and rejected with respect to claims 3-4 respectively.

Re claims 14 have been analyzed and rejected with respect to claims 7 respectively.

Re claim 10, Naruki et al. disclose a method for controlling an input signal level of an input signal recognized when the signal is inputted to a device ("fig. 13-31"). However, Naruki fail to disclose the method comprising the steps of: a) determining whether a current input signal level to be controlled is substantially identical to a previous input signal level which is a level of an input signal preceding the current input signal. But, Lebizay et al. disclose a system in which the method of determining whether a current input signal level to be controlled is substantially identical to a previous input signal level which is a level of an input signal preceding the current input signal ("fig. 5/(507); col. 5 line 38-47") for the purpose of transmitting non-repetitive packet to a network format. Thus, taking the combined teaching of Naruki et al. now Lebizay et al. as a whole, it would have been obvious for one of ordinary skill in the art to modify Naruki and Elenich et al. as a whole, by incorporating the previous input signal level is stored as the current input signal level based on the determination by said determining unit as to whether said corresponding values are identical

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for the purpose of transmitting non-repetitive packet to a network format as taught by Lebizay.

While, the combined teaching of Naruki et al. and Lebizay as a whole, teach of the above method with the current and previous input level, they fail to disclose of the limitation of increasing any one of a change counter value which is a first number of input signals having different levels detected by comparing the current input signal level with the previous input signal level, or a no-change counter value which is a second number of input signals having a same level detected by comparing the current input signal level with the previous input signal level and determining the level of the current input signal, depending either on whether a maximum change value which is an upper limit of an allowable range of level variation in the device and the change counter value are identical, or on whether a maximum no-change value which is an upper limit of an allowable range of level in variation in the device and the no-change counter value are identical. However, Elenich et al. disclose of a system in which he develop the same technique of increasing any one of a distinction between the change counter value which is a first number of input signals having different levels detected by comparing the current input signal level with the previous input signal level, or a no-change counter value which is a second number of input signals having a same level detected by comparing the current input signal level with the previous input signal level ("fig.2/{(212-214);(220,222)}") and determining the level of the current input signal, depending either on whether a maximum change value which is an upper limit of an allowable range of level variation in the device and the change counter value are identical, or on whether a maximum no-change value which is an upper limit of an

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allowable range of level in variation in the device and the no-change counter value are identical ("fig.2/(216,224); col.4 line 1-5 & line 31-33; two distinct maximum values of counters determined") for the purpose of for purpose of monitoring/calculating the estimated level sensor value and comparing the estimated value with actual value.

Thus, taking the combined teaching of Naruki et al. and Lebizay et al. and now Elenich et al. as a whole, it would have been obvious for one of the ordinary skill in the art to modify Naruki and Lebizay as a whole, by incorporating the technique of increasing any one of a change counter value which is a first number of input signals having different levels detected by comparing the current input signal level with the previous input signal level, or a no-change counter value which is a second number of input signals having a same level detected by comparing the current input signal level with the previous input signal level and determining the level of the current input signal, depending either on whether a maximum change value which is an upper limit of an allowable range of level variation in the device and the change counter value are identical, or on whether a maximum no-change value which is an upper limit of an allowable range of level in variation in the device and the no-change counter value are identical\for the purpose of for purpose of monitoring/calculating the estimated level sensor value and comparing the estimated value with actual value as taught by Elenich.

The combined teaching of Naruki et al. and Lebizay et al. and now Elenich et al. as a whole, teach of the setting a predetermined level as the current input signal level based on the determined level of the current input signal ("lebizay, fig.5(509)").

3. Claims 8,15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naruki et al. ("6,377,862 B1") and Elenich et al. ("6,904,783 B2") and Lebizay et al. ("6,144,658") and further in view of Lechevalier ("20030137341 A1").

Re claim 8, the combined teaching of Nakuri et al. and Elenich et al. as a whole, disclose of the apparatus according to claim 1 with the input signal level ("Naruki, fig.1"), However, they fail to disclose of the input signal levels are either a high level or a low level of a digital voltage measuring signal outputted to an external device from a battery. But, Lechevalier disclose of a circuit in which the input signal levels art at a low level of a digital voltage measuring signal outputted to an external device from a battery ("fig.1; col.3 [0049]") for the purpose of providing operating power to drive the application circuitry. Thus, taking the combined teaching of Nakuri et al. and Elenich et al. and now Lechevalier as a whole, it would have been obvious for one of ordinary skill in the art to have the input signal levels art at a low level of a digital voltage measuring signal outputted to an external device from a battery for the purpose of providing operating power to drive the application circuitry as taught by Lechevalier.

Re claims 15 have been analyzed and rejected with respect to claims 8 respectively.

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4. Claims 9,16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naruki et al. ("6,377,862 B1") and Elenich et al. ("6,904,783 B2") and Lebizay et al. ("61,444,658") and further in view of Woo ("5347499").

Re claim 9, the apparatus according to claim 1 with the input signal levels, However, they fail to disclose of the input signals are either in a mono mode or a stereo mode outputted from an audio system. But, Woo disclose a system in which the signals are either in a mono mode or stereo mode outputted from an audio system ("fig.1; col.2 line 45-67") for the purpose of determining how to control the operation of an analog switching unit. Thus, taking the combined teaching of Naruki et al. and Elenich et al. and now Woo as a whole, it would have been obvious for one of the ordinary skill in the art to have modified Naruki and Elenich as a whole, by incorporating the the signals are either in a mono mode or stereo mode outputted from an audio system for the purpose of for the purpose of determining how to control the operation of an analog switching unit as taught by Woo.

Re claims 16 have been analyzed and rejected with respect to claims 9 respectively.

### **Conclusion**

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

The following prior art disclosed the techniques of using distinct counters to monitors signals level with maximum threshold limit: Stavnheim et al. ("6,076,504") and Bedard et al. ("4,425,628") and Arita et al. ("6,819,407 B2") and Wang et al. ("5,878,098").

**Contact**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Disler Paul whose telephone number is 571-272-2222. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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